

begins the Ciconiidae. Only one new form appears, *Meliërax canorus neumanni* (p. 1165) Arbud, Mereau.—W. S.

**Phillips on Experimental Studies of Hybridization among Ducks and Pheasants.**<sup>1</sup>—The experiments here described were carried on during the past five years. The species involved were the Mallard, Pintail, Australian and East Indian Ducks; and the Ring-neck, Prince of Wales, Lady Amherst and Golden Pheasants, and the investigations deal mainly with the inheritance of male secondary sex characters.

In domestic birds a number of clearly Mendelizing characters have been demonstrated and sex-linked characters have also been described in canaries, pigeons and domestic fowls. In his experiments with wild species, however, Dr. Phillips found "a very different state of things." "Characters often apparently clear-cut and antagonistic do not segregate clearly." "There is some evidence that in closely related geographical races there is a nearer approach to orthodox Mendelism, but this is never reached, even in back crosses, except occasionally in isolated characters or in the more undifferentiated plumages of the female sex."

Dr. Phillips comes to the conclusion that it is almost certain that the ordinary subspecies of the ornithologist is very far from being a unit variation and that sex-linked inheritance is probably a feature of domestic races in birds. Indeed in species hybrids in almost every feather region the most minute detail of feather pattern and color show the influence of both parental races.

Dr. Phillips' paper is of great importance, showing what many students of systematic zoölogy have long felt, that it is not safe to assume that laws and principles of heredity demonstrated in domesticated strains of animals necessarily prevail in the case of wild species.

Too few of those engaged in experimental breeding have a proper training in systematic zoölogy to appreciate the nature of wild species, and we, therefore, especially welcome publications from an investigator so well informed on both sides of the problem as is Dr. Phillips.—W. S.

**Allen on Pattern Development in Mammals and Birds.**<sup>2</sup>—Dr. Allen has made a valuable contribution to the subject of coloration, a field by the way which opens up many possibilities for the ornithologist who may care to enter it. In the particular phase of the subject which he has been investigating — pattern development — he shows that pigmentation develops from certain centers, each one covering a very definite area. Loss of strength in a center of pigmentation and consequent failure to cover the entire area, results in a white or unpigmented line or space between this

<sup>1</sup> Experimental Studies of Hybridization among Ducks and Pheasants. By John C. Phillips. Jour. of Experimental Zool., Vol. 18, no. 1, January, 1915, pp. 69-112, ppl. 1-8.

<sup>2</sup> Pattern Development in Mammals and Birds. By Glover M. Allen. American Naturalist, 1914, pp. 385-412, 467-484, 550-566.

and the next area, producing a pied or a reticulated pattern. Such patterns, due to areal reduction, have, in wild species, often become fixed and a permanent part of the normal pattern. The development of such patterns has probably been very gradual, and it may be seen in process of development today in certain species in which the extent of white areas is quite variable—as the white neck patches of the Cackling Goose.

Dr. Allen also finds that the converse of this centripetal style of pigmentation is present in many species resulting in black pigmentation at the extremities—tip of nose, ears, tail or toes—or along primary breaks between pigmented areas. Furthermore the patches are physiologically independent of one another and may be differently colored in different individuals.

A careful study of Dr. Allen's paper will give us an intelligent idea of the apparently anomalous coloration of many domestic animals and when we become familiar with the locations of the various pigment centers, we see at once an explanation of many of the distributions of color in wild species, and why we find a constant duplication of general pattern or of prominent color patches in widely separated species.—W. S.

**Shufeldt on the Skeleton of the Ocellated Turkey.**<sup>1</sup>—Dr. Shufeldt here presents a detailed study of the skeleton of this interesting bird and compares it bone for bone with that of the more familiar turkey, *Meleagris gallopavo*. While he considers that the differences in the external characters of the two birds are sufficient to establish them in separate genera, he fails to find any notable difference in the skeletons, nothing indeed which would indicate more than specific differentiation.—W. S.

**Smith's 'Handbook of the Rocky Mountain Park Museum.'**<sup>2</sup>—This neatly printed little book is a guide to the Museum at Banff, Alberta. The ornithological portion contains the names of all species found within the limits of the park, with data for the specimens exhibited and special mention of those species which may be seen alive in the immediate vicinity of the museum. There is a full description of one species in each family, but it would seem that a general account of each family group would have been better in such a work. The species, so described, are elevated to undue importance in the popular mind over equally important species which are granted only nominal mention. We understand, however, that this is only a forerunner of a fuller edition and that these descriptions are devised for labels quite as much as for the users of the handbook. The framing of such a book so that descriptive labels may be printed off from the same type is an excellent idea.—W. S.

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<sup>1</sup> On the Skeleton of the Ocellated Turkey (*Agriocharis ocellata*) with notes on the osteology of other Meleagridæ. By R. W. Shufeldt. *Aquila*, Vol. XXI, 1914, pp. 1-52, pls. I-XIV, (Nov. 15, 1914). (In Hungarian and English.)

<sup>2</sup> Handbook of the Rocky Mountains Park Museum. By Harlan I. Smith. Svo, pp. 1-126. Ottawa, 1914.